Amendments to the Claims

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Previously presented) A computed tomography apparatus which includes;

a radiation source that emits radiation that traverses an examination zone, wherein the radiation source rotates around the examination zone along a longitudinal axis;

a detector arrangement that detects radiation that traverses the examination zone, wherein the detector arrangement is configured for displacement, with respect to the radiation source, in a direction along the longitudinal axis;

a first drive unit configured to displace the detector arrangement along the longitudinal axis so that substantially all transmission radiation that traverses the examination zone bypasses the detector arrangement and scattered radiation that traverses the examination zone illuminates the detector arrangement.

2. (Previously presented) The computed tomography apparatus as claimed in claim 1, in which the radiation source is arranged to form an essentially fan-shaped radiation beam and the detector arrangement comprises a plurality of detector elements which are arranged in rows and columns in conformity with the length and the width, respectively, of the cross-section of the radiation beam in the detector plane.

3. (Previously presented) The computed tomography apparatus as claimed in claim 1, in which the detector arrangement comprises a plurality of detector elements which are arranged in a row.

4. (Previously presented) The computed tomography apparatus as claimed in claim 1, further including: a source collimator arranged with respect to the radiation source to be offset from the radiation source in a direction perpendicular to a propagation direction of the radiation

beam in such a manner that the transmission radiation traversing the examination zone substantially bypasses the detector arrangement.

5. (Previously presented) The computed tomography apparatus as claimed in claim 4, wherein the source collimator is configured for displacement in the direction perpendicular to the propagation direction of the radiation beam, and further including a second drive unit for selectively displacing the source collimator with respect to the radiation source in such a manner that the transmission radiation traversing the examination zone substantially bypasses the detector arrangement.

6. (Previously presented) The computed tomography apparatus as claimed in claim 1, further including a detector collimator arranged between the examination zone and the detector arrangement, wherein the detector collimator includes a sub-region that attenuates the transmission radiation so that an intensity of the transmission radiation illuminating the detector arrangement is substantially equal to an intensity of the scattered radiation illuminating the detector arrangement.

7. (Previously presented) The computed tomography apparatus as claimed in claim 6, wherein the sub-region includes an opening through which transmission radiation traverses substantially unattenuated and illuminates the detector arrangement.

8. (Previously presented) The computed tomography apparatus as claimed in claim 1, wherein the radiation source is configured for displacement along the longitudinal axis, and further including:

a source collimator; and

a second drive unit that displaces the radiation source, with respect to the source collimator, along the longitudinal axis so that the transmission radiation traversing the examination zone substantially bypasses the detector arrangement.

9. (Previously presented) The computed tomography apparatus as claimed in claim 1, wherein only the scattered radiation illuminates the detector arrangement.

10. (Currently amended) A computed tomography apparatus, comprising:

a radiation source that emits radiation that traverses an examination zone, wherein the radiation source rotates about the examination region along an axis of rotation;

a detector arrangement that detects radiation that traverses the examination zone; and

a collimator arranged between the examination zone and the detector arrangement,

wherein the collimator includes a sub-region that attenuates ~~the~~ transmission radiation so that an intensity of the transmission radiation traversing the sub-region and illuminating the detector arrangement is substantially equal to an intensity of ~~the~~ scattered radiation illuminating the detector arrangement, and

wherein the sub-region includes an opening through which transmission radiation traverses substantially unattenuated and illuminates the detector arrangement.

11. (Previously presented) A method, comprising:

selectively directing a radiation beam with respect to a detector arrangement so that transmission radiation, corresponding to the radiation beam, that traverses an examination zone and bypasses the detector arrangement; and

detecting scattered radiation, corresponding to the radiation beam, that traverses the examination zone and illuminates the detector arrangement.

12. (Previously presented) The method of claim 11, wherein the act of selectively directing the radiation beam includes selectively shifting the detector arrangement in a direction perpendicular to a propagation direction of the radiation beam.

13. (Previously presented) The method of claim 11, wherein the act of selectively directing the radiation beam includes selectively shifting a source collimator with respect to a radiation

source that emits the radiation beam in a direction perpendicular to a propagation direction of the radiation beam.

14. (Previously presented) The method of claim 11, wherein the act of selectively directing the radiation beam includes selectively shifting a radiation source that emits the radiation beam with respect to a source collimator in a direction perpendicular to a propagation direction of the radiation beam.

15. (Previously presented) The method of claim 11, wherein the transmission and the scattered radiation are concurrently detected during a same data acquisition cycle.

16. (Previously presented) The method of claim 15, further including attenuating the transmission radiation using a device with a thickness configured to attenuate the transmission radiation so that its intensity is about the same as the intensity of the scattered radiation.

17. (Previously presented) The method of claim 16, wherein the device includes an opening through which the transmission radiation passes through substantially unattentuaed.

18. (Previously presented) The computed tomography apparatus of claim 10, wherein the radiation source is configured to move in a direction along the axis of rotation, and further including:

a source collimator; and

a drive unit that selectively displaces the radiation source with respect to the source collimator along the axis of rotation;

wherein the drive unit displaces the radiation source so that the transmission radiation traversing the examination zone substantially bypasses the detector arrangement.

19. (Previously presented) The computed tomography apparatus of claim 10, further including a drive unit that laterally displaces the detector arrangement, with respect to the radiation source, in a direction along the axis of rotation so that substantially all transmission radiation traversing the examination zone bypasses the detector arrangement and scattered radiation traversing the examination zone illuminates the detector arrangement.

20. (Previously presented) The computed tomography apparatus of claim 10, further including:

a source collimator configured to move in a direction along the axis of rotation with respect to the radiation source; and

a drive unit for selectively displacing the source collimator along the axis of rotation;

wherein the drive unit selectively displaces the source collimator, with respect to the radiation source, so that the source collimator is offset from the radiation source so that the transmission radiation traversing the examination zone substantially bypasses the detector arrangement.